subfield," the accuracy of the data shall be maintained such that it is not worse than +/- ½ LSB where the LSB is that of the "North Velocity Magnitude" subfield.

If the North Velocity Magnitude Input is "unavailable" for the "Data Lifetime" value listed for this input in Table 2-64, then the "North Velocity Magnitude" subfield **shall** default to a value of ALL ZEROs.

2.2.4.5.2.6.2   Encoding as "Ground Speed" Form

When the "A/G STATE" field is set to "2," the "North Velocity or Ground Speed" component **shall** assume the "Ground Speed" format, if Ground Speed is available, as indicated in Table 2-22.

Table 2-22: "Ground Speed" Format

Byte 13					Byte 14					
Bit 4	Bit 5	Bit 6	Bit 7	Bit 8	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6
Reserved	(MSB)				--Ground Speed--					(LSB)

a. The 1-bit subfield (bit 4 of byte 13) **shall** be "Reserved" and set to ZERO (0).

b. The "Ground Speed" subfield is a 10-bit (bit 5 of byte 13 through bit 6 of byte 14) subfield that **shall** be used to report the Ground Speed of the ADS-B Transmitting Subsystem (in knots). The Range, Resolution and No Data encoding of the "Ground Speed" subfield **shall** be as shown in Table 2-23.

Table 2-23: "Ground Speed" Encoding

Coding $_{MSB}$(binary)$_{LSB}$	Coding (decimal)	Meaning (A/G STATE = 2)
00 0000 0000	0	Ground Speed information not available
00 0000 0001	1	Ground Speed is ZERO
00 0000 0010	2	Ground Speed = 1 knots
00 0000 0011	3	Ground Speed = 2 knots
...	...	...
11 1111 1110	1022	Ground Speed = 1021 knots
11 1111 1111	1023	Ground Speed > 1021.5 knots

Note: *Raw data used to establish the "Ground Speed" subfield will normally have more resolution (i.e., more bits) than that required by the "Ground Speed" subfield. When converting such data to the "Ground Speed" subfield, the accuracy of the data shall be maintained such that it is not worse than +/- ½ LSB where the LSB is that of the "Ground Speed" subfield.*

If the Ground Speed Input is "unavailable" for the "Data Lifetime" value listed for this input in Table 2-64, then the "Ground Speed" subfield **shall** default to a value of ALL ZEROs.